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ABSTRACT

A child faced with an unknown word in oral reading or oral language has available a number of potential cues, including syntactic and semantic features. His errors may reveal strategies based on the use of some but not all cues. In order to assess the similarity of responses to oral reading and oral language, 75 children in grades 1-3 were presented reading and auditory cloze tasks at three levels of difficulty. Separate analyses were conducted for syntactically appropriate miscues and for semantically-and-syntactically appropriate miscues. For syntactically appropriate responses, significant effects were found for task, with a higher mean for cloze, and for grade by task. Although main effects for grade and complexity were not significant, the interaction of grade by complexity was significant. For responses which were both semantically and syntactically appropriate, there was a significant effect for task, with a higher mean for the cloze task. Complexity was significant, with a decrease from the easiest to most difficult passage. No other effects were significant. (Author/TO)

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Parallel Analysis of Oral Language and Reading Miscues

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It is generally assumed that language skills provide a foundation for reading skills. Language, however, is many-faceted, and it seems quite possible that skill in various aspects of language may relate in different ways to corresponding facets of reading. Parallel analyses of syntactic and semantic errors in an oral language task and an oral reading task may clarify the relationship of specific skills in language to use of those skills in reading.

During early development of a skill or concept, analysis of errors is often more revealing than a simple count of correct responses. An error may be simply a random response, or it may be the result of a systematic use of some but not all of the available cues. By analyzing errors, it is possible to isolate the rules which govern a child's

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response, rules which underlie both correct and incorrect responses.

For the analysis of responses given in oral language, the cloze task (Taylor, 1954) is useful. Words are deleted in some systematic manner, such as every 10th word. The subject hears the text and is asked to supply the missing words. The most relevant cues in this situation appear to be a (not necessarily explicit) sense of grammatical function and the meaning derivable from the passage.

In an oral reading task, the child has both the language cues and the graphic form of the word. This additional information provides cues for phonics analysis, used alone or in combination with other cues, such as context. Some children may operate primarily on a visual basis, resulting in confusion of graphically similar words.

When a child reads a sentence correctly, it is hard to know how he succeeds. He may be able to read the words by sight, or because of phonic analysis skills, or by application of knowledge of language patterns. The successful product masks the process by which the child succeeds.

One means of assessing the cues used in reading is the miscue analysis proposed by Goodman (1969). This analysis is based on the assumption that a child, facing an unknown word, may respond on the basis of certain cues more readily than others. Errors in oral reading may be categorized in various ways, such as syntactically, semantically or morphemically appropriate.

Although the oral reading and auditory cloze tasks share many features, there are necessarily some differences in the stimuli available and in the task requirements. By keeping the stimulus materials and the response criteria as nearly as possible the same, it is possible

to make meaningful comparisons between a child's response to oral reading and auditory cloze tasks.

The central purpose of the present study was to examine the relationship between use of syntactically and semantically appropriate responses in oral reading and in an auditory cloze task. In addition, comparison of tasks and grade levels was desired.

Procedures

Hypotheses: Hypotheses to be tested included:

I. a. Correlation of Syntax in Reading and Syntax in Auditory Cloze will not be significantly different from zero.

b. Correlation of Semantic-Syntactic responses in Reading with Semantic-Syntactic responses in Auditory Cloze will not be significantly different from zero.

II. In the analysis of variance, the effects for Grade, Task, and Grade by Task interaction will be non-significant.

Design: The number of responses in each category was computed as a percentage of the total number of errors in a given passage for reading or auditory cloze. The percentages were then transformed into arcsine equivalents, which approximate a normal distribution.

Data were analyzed in a 3 x 2 x 3 mixed design with Grade (3) a between-subjects factor and Task (2) and Complexity (3) as within subjects effects. Separate analyses were performed for syntactically and semantically appropriate errors.

Subjects: From two parochial schools serving predominantly middle- to lower-middle class families, 25 children were randomly selected at each

grade level (first through third). Testing was conducted in the last month of school. Reading level was assessed by means of the Gilmore Oral Reading Test (Gilmore, 1952), and any subject scoring below grade 1.6 or above 6.0 was replaced.

Method: Each child was first administered the Gilmore Oral Reading Test to estimate his reading level. He was then given passages on three reading levels of the Diagnostic Reading Survey (Spache, 1963), one on his level (as determined by the Gilmore), one just below, and one just above. At each level there are two selections; for each child one of these was randomly assigned to be presented as an auditory cloze task, one as an oral reading task.

For the Reading task, the child read each selection aloud, while the examiner noted word substitutions (including reversals) and omissions. For the Cloze task, the examiner first read the entire selection, deleting every tenth word, and then read each sentence, noting the word the child selected for the deleted word.

In both tasks, each word substitution was classified in one of the following categories: wrong; syntactically correct (having the same grammatical function in the phrase); semantically-and-syntactically correct (having the same grammatical function and also roughly the same meaning); semantically correct (same meaning but not the same syntactic function); morphemically correct (the same word stem, with a difference only in inflection, such as tense, number, etc.); or a hit (the exact word deleted, used only for the cloze task).

The miscues in both tasks were rated jointly by the two authors, and then independently by another rater. Inter-rater reliability was assessed by means of Scott's (1955) procedure. This is a relatively conservative procedure which involved the differences between observed

agreement and the agreement expected by chance, based on the actual frequency of use of various categories. Across all categories, reliability coefficients of .86 for reading and .84 for cloze were found.

Results

Correlations: The correlation of syntactically appropriate responses to Reading and Auditory Cloze, based on the proportions of possible errors, was .16, which is not significant at the .05 level. The correlation of semantically appropriate responses in Reading and Auditory Cloze was .29, which is significant, but accounts for a relatively small proportion of the variance.

Analysis of Variance - Syntactically Appropriate Miscues: The effect for Grade was not significant. The effect for Task was significant at $p < .05$, with a higher mean for the Cloze task. The interaction of Grade and Task was significant ($p < .01$). For the Reading task, there was a clear decrease from first to third grade in the proportion of miscues which were syntactically appropriate. For the Cloze task, there was an increase from first to second, with the pattern from second to third parallel to but higher than for Reading. In addition, although the effect for Complexity or difficulty level of the passage was not significant, a significant interaction ($p < .05$) for Grade by Complexity was found. At Level 1 (the easiest passage for each subject) the proportion of miscues which are syntactically appropriate is greatest for first grade, least for third. At Level 2, the order is the same, though the spread is less. At Level 3 the pattern for second and third grade is the same, but first graders have the lowest proportion. For first grade, there is a clear decrease from Level 1 to Level 3 in the proportion of miscues which are syntacti-

cally appropriate.

Analysis of Variance - Semantically-and-Syntactically Appropriate Miscues: The effect for Grade was not significant. The effect for Task was significant at $p < .001$ with a higher mean for the Cloze task. Complexity was significant at the .05 level under the usual F procedures, with a gradual decrease from the first (easiest) passage to the last in the proportion of miscues which were both semantically and syntactically appropriate. This effect, however, is significant only at the .10 level under the conservative F procedure (Greenhouse and Geisser, 1959).

Discussion

These results indicate the complexity of the system in which the relationships of language and reading are embedded. Syntax and semantics, as reflected in these tasks show both similarities and differences.

Grade was not a significant main effect for either Syntax or Semantic responses. Task was significant in both cases; there were for both semantically and syntactically appropriate miscues a greater proportion in Cloze than in Reading. In the Reading task, more of the errors were apparently distributed as omissions or completely wrong, categories not analyzed here.

Complexity was not a significant main effect for Syntax, but interacted significantly with Grade. For the first grade, the proportion of errors which were syntactically appropriate sharply decreased as passages increased in difficulty. For the third grade there was a slight increase as difficulty level increased.

Complexity was significant as a main effect for Semantic miscues (more semantically appropriate responses on easiest passages) when

evaluated by the usual F procedure, but not significant when evaluated by means of the conservative F with reduced degrees of freedom. The interaction of Grade and Complexity was not significant for Semantic miscues.

Although the interaction of Grade and Task was not significant for Semantic miscues, it was significant at the .01 level for Syntactically appropriate miscues. There was a sharp decrease in proportion of syntactically appropriate miscues from first grade through third on Reading, while this category of miscues first increased and then decreased for Cloze.

In attempting to examine any complex system, there are many possible approaches, and each choice of approach influences the observed results. In this report, the effects of three choice-points seem especially critical to accurate interpretation. First, the present analysis of variance is univariate. Multivariate analysis of all error types simultaneously in order to examine their joint effects and the overall distribution of errors.is in progress and will be reported later.

A second consideration is that the unit of analysis may well affect results, although each is legitimate for certain purposes. In the present analysis, the number of possible words misread in a passage and the number of deleted words incorrectly supplied in a cloze passage would inevitably be far different even in passages of equal difficulty. For this reason, the number of actual errors, excluding omissions, was used as the denominator in computing the proportion of errors which fell in each category. This allowed more reasonable comparison across tasks, but compressed dimensionality and increased the dependency of each category on the other.

A third consideration is the varying level of difficulty of passages read by children in the same grade level. Presenting the same materials

to all subjects or to all subjects in a given grade has certain advantages for analysis, but these were judged less important than the possibility of reflecting the child's normal response to reading within his range of ability.

The present study yields intriguing views of similarities and differences in the use of certain language cues, across tasks, grades, and levels of complexity of passages. A clear view of the relationship of specific aspects of reading with corresponding aspects of oral language skills may allow more sensitive analysis of patterns and reading problems in individual children. Children may be guided to more effective application of language skills to reading. Such a comprehensive view is not yet available, but the possibility motivates further effort.

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In order to assess the similarity of responses to oral reading and oral language, 75 children in grades 1-3 were presented reading and auditory cloze tasks at three levels of difficulty. Separate analyses were conducted for syntactically appropriate miscues and for semantically-and- syntactically appropriate miscues.

For syntactically appropriate responses, significant effects were found for Task ($p<.05$), with a higher mean for Cloze, and for Grade by Task ($p<.01$). Although main effects for Grade and for Complexity were not significant, the interaction of Grade by Complexity was significant ($p<.05$).

For responses which were both semantically and syntactically appropriate, there was a significant effect for Task (p .001), with a higher mean for the Cloze task. Complexity was significant at the .05 level (.10 under conservative F), with a decrease from the easiest to most difficult passage. No other effects were significant.

Although the materials and the response ratings were quite similar for the reading and auditory cloze tasks, the difference in response was strong and the correlations of corresponding categories in the two tasks were low. Reading the entire passage befor eliciting responses may maximize the difference in tasks. By varying the degree of similarity in the tasks, it may be possible to map continuities and discontinuities between reading and auditory cloze.

The patterns of errors in the two task differ. Although language skills may be generally facilitative of reading skills, point-to-point correspondence of specific factors in reading and language appears to be minimized by task differences.